

Work Order ID 155358

Thursday, January 12, 2017 3:40:51 PM

647.4410

155358

Page 1

Item ID: 647.4410

Revision ID:

Item Name: Rail

Start Date: 1/18/2017 Start Qty: 16.00

Required Date: 1/23/2017 Req'd Qty: 16.00

Reference:

Approvals:

Process Plan:

DAS

21

9-89

Date: JAN 13 2017

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

NR1

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

647.4400

n/c

100

0.00

100

BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut Blank at 15.00"

18

0

DAS

44

9-89

17-02-08

110

0.16

110

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.59

HAAS CNC vertical machine #1

1-Machine per folio FB282

DWG REV: N/CFOLIO REV: N/C

2- deburr and break all sharp edges

A.A 17-02-11

DAS

08

9-89

18

0

DAS

44

9-89

17-02-08

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 155358

Thursday, January 12, 2017 3:40:51 PM

155358

Page 2

Item ID: 647.4410

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Rail

Start Date: 1/18/2017 Start Qty: 16.00

16

Cust Item ID:

Required Date: 1/23/2017 Req'd Qty: 16.00

16

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC2- Inspect parts off machine FAI/FAIB	0.00							
120									
QC	Memo	0.03							
Quality Control									
130	QC8- Inspect parts - second check	0.00							
130	(see last 2 pages)								
QC	Memo	0.05							
Quality Control									
140	Outsource process-Anodize per QSI017 4.1.10.1	0.00							
140									
Outsource4	Memo	479.98							
Outsource process - Anodize	Issue P/O to ATG : <u>35521</u>								
	1- Black Anodize as per Dwg 647.4400								
	2- PRIME AS PER DWG, SEE NOTE #2								
	Certification of Comformity is required								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Work Order ID 155358

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155358

Page 3

Item ID: 647.4410 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Rail
Start Date: 1/18/2017 Start Qty: 16.00 ***16*** Cust Item ID:
Required Date: 1/23/2017 Req'd Qty: 16.00 ***16*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Receive & Inspect for Damage & Mat'l Certs	0.00							
150									
Packaging	Memo	0.05							
Packaging									
155	QC5- Inspect part completeness to step on W/O	0.00							
155									
QC	Memo	0.05							
Quality Control									
	2.5 mils thickness primer								
180	Identify as per dwg & Stock Location: <u>cck081</u>	0.00							
180									
Packaging	Memo	0.03							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***								

18x Sp17-03-27

18

DAS 38 9-89

MAR 28 2017

DAS 6 9-89

18

DAS 41 9-89

MAR 30 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 155358

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155358

Page 4

Item ID: 647.4410 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Rail
Start Date: 1/18/2017 Start Qty: 16.00 ***16*** Cust Item ID:
Required Date: 1/23/2017 Req'd Qty: 16.00 ***16*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.27							
Quality Control									

17/4/3
MF
17-3-31

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Picklist Print

Thursday, January 12, 2017 3:40:51 PM

Page 1

Work Order ID: 155358

155358

Parent Item: 647.4410

647 4410

Parent Item Name: Rail

Start Date: 1/18/2017

Required Date: 1/23/2017

Start Qty: 16.00

Required Qty: 16.00

Comments: IPP REV A RQ VERIFIED BY DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
647.4400E *647 4400F* Rail		Manufactured	No			100	f	84.0000	1.25	21.05263	DAS 44 9-89	17-02-08	

Location

Loc Qty

Loc Code

MAT035

84

92576

84

24

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

DART AEROSPACE LTD	Work Order: 155358
Description: Rail	Part Number: 647.4410
Inspection Dwg: 647.4400 Rev: NC1	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
2.00	+/-0.010	2.001	✓		Vern	GA-13
1.250	+/-0.005	1.250	✓		"	"
0.375	+/-0.005	0.375	✓		H-6	31006
1.000	+/-0.005	0.997	✓		"	"
2.000	+/-0.005	1.997	✓		"	"
6.996	+/-0.005	6.993	✓		"	"
12.996	+/-0.005	12.993	✓		"	"
14.846	+/-0.005	14.843	✓		"	"
R0.438	+/-0.005	R0.438	✓		R-6	ref.
R0.063	+/-0.005	R0.063	✓		"	"
0.050	+/-0.005	0.051	✓		D-6	GA-08
(0.821)	+/-0.005	0.823	✓		H-6	31006
0.830	+/-0.005	0.8325	✓		H-6	31006
0.340	+0.000/-0.005	0.334	✓		Mic	GA-03
0.90	+/-0.010	0.902	✓		Vern	GA-13
0.188	+/-0.005	0.189	✓		Mic	GA-03
0.200	+/-0.005	0.200	✓		Vern	GA-13
R0.063	+/-0.005	R0.063	✓		R-6	ref.
R0.125	+/-0.005	R0.125	✓		"	"
30°	+/-0.5°	30.5°	✓		Angle M.	CNC-17
14.025	+/-0.005	14.025	✓		H-6	31006
12.531	+/-0.005	12.529	✓		"	"
0.692	+/-0.005	0.683	✓		"	"
0.626	+/-0.005	0.6275	✓		"	"
0.313	+/-0.005	0.313	✓		"	"
1.906	+/-0.005	1.907	✓		"	"
2.101	+/-0.005	2.099	✓		"	"
4.201	+/-0.005	4.200	✓		"	"
6.300	+/-0.005	6.300	✓		"	"
Ø0.201	+0.005/-0.001	Ø0.203	✓		Vern	GA-13
Ø0.094	+0.004/-0.001	Ø0.095	✓		"	"
1.502	+/-0.005	1.501	✓		H-6	31006
0.813	+/-0.005	0.815	✓		"	"
60°	+/-0.5°	60°	✓		Angle M.	CNC-17
23.5°	+/-0.5°	23.5°	✓		"	"
41.2°	+/-0.5°	41.2°	✓		"	"

stock
extension
size

see
last
2 pages

Measured by: A. DAS 08	Audited by: J. 17-02-22	Preliminary Approval:
Date: 17-02-11 9-09	Date:	Date:

Rev	Date	Change	Revised by	Approved
A	14.08.28	New Issue	KJ	

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03695				SHEET 1 OF 1	
	DWG NO. 647.4400	REV: N/C	PREPARED BY B. PETERS	DATE: 11/14/12	EFFECT ON DWG ☐ INC. ☒ UNINC.	
	DWG TITLE: RAIL					
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: NEXT ORDER		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: ADDED ALTERNATE MATERIAL.			ECR: D-12-003	

IS

1 PRIMARY MATERIAL: 7075-T651
ALUMINUM PER AMS-QQ-A-250/12
ALTERNATE MATERIAL: 7075-T6511
ALUMINUM PER AMS-QQ-A-200/11

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 1553S8MJS
1701-13

SHEET 1, ZONE A1 IS:

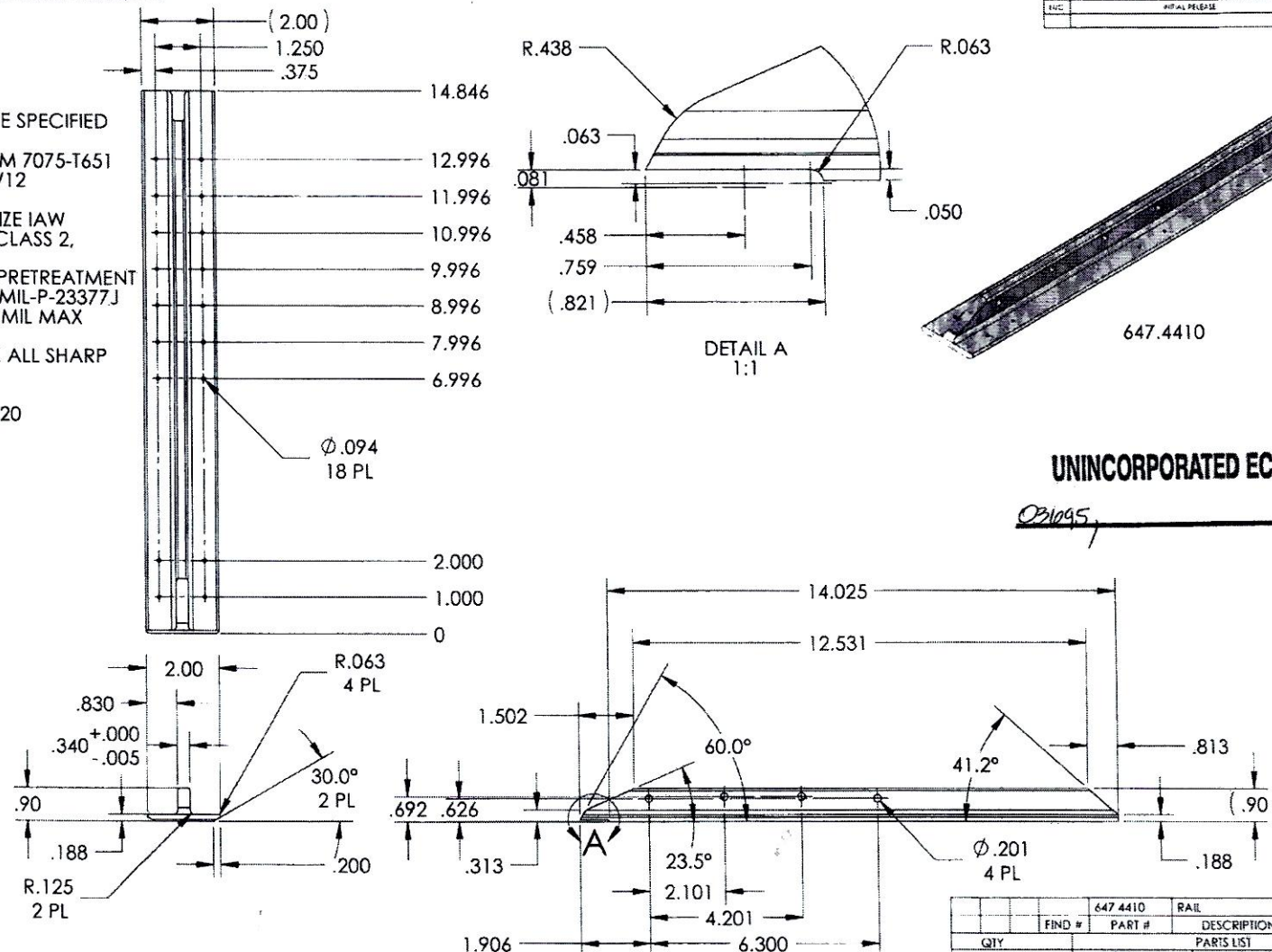
F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:					CHANGE CATEGORY	DER REVIEW REQUIRED
☐ RFMS ☐ MDL ☐ INSTALL INSTRU ☐ ICA ☐ BOM					☐ MAJOR ☒ MINOR	☐ YES ☒ NO

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES, INC. REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

REVISIONS				
REV	DESCRIPTION	DATE	APPROVED	
1	LAST PRODUCTION RELEASE PPT		INC	
2	APICAL RELEASE		DRYTON	P. SPANCO

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR: BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER; PRIME IAW MIL-P-23377J TYPE I, CLASS N; 1-2 MIL MAX
3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120



UNINCORPORATED ECN(s)

031095

		647 4410	RAIL		
	FIND #	PART #	DESCRIPTION	MATL	SPEC.
QTY			PARTS LIST		
NEXT ASSY (S)			APICAL INDUSTRIES		
647.3700			2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300		
			RAIL		
			UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES 10. FRAMES ARE 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .001 ANGLES ± .1° SCALE NONE	REV N/C	
			SHEET 1 OF 1		

Jean-Luc Menard

From: Alex Quan
Sent: Tuesday, February 21, 2017 12:52 PM
To: Jean-Luc Menard; Pablo Bravo; Jason Gardiner
Cc: Jean Francois Sauve; Guillaume Auclair
Subject: RE: 647.4410 WIREFRAME VS DRAWING DISCREPENCY

Hi JL,

After a close examination of the drawing, I have noticed that on sheet 1, zone D4, the dimension of 0.692 is incorrect due to a drafting error. All other dimension discrepancies fall within the tolerances of the drawing and are different due to the round off error in Solidworks.

I believe there is no issue with the parts being manufactured according to the drawing.

I will work on updating the drawing this week.

Alex

From: Jean-Luc Menard
Sent: Tuesday, February 21, 2017 7:57 AM
To: Pablo Bravo <pbravo@dartaero.com>; Jason Gardiner <jgardiner@dartaero.com>; Alex Quan <aquan@dartaero.com>
Cc: Jean Francois Sauve <jfsauve@dartaero.com>; Guillaume Auclair <gauclair@dartaero.com>
Subject: 647.4410 WIREFRAME VS DRAWING DISCREPENCY

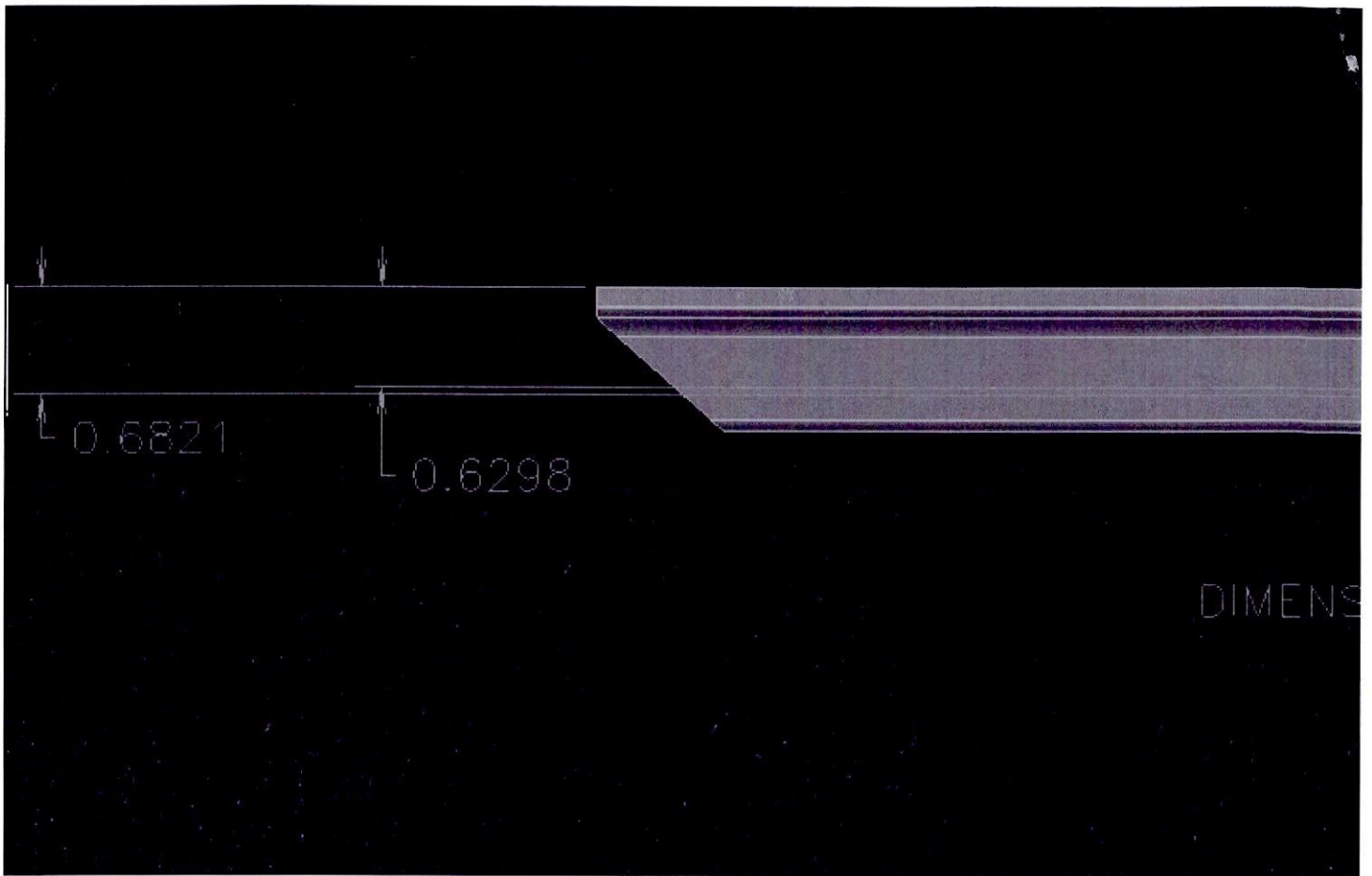
See below for the sketch showing the dimensions on the drawing not matching the wireframe.

All parts in the past and currently have been manufactured to the model.

Pls advise if this deviation is acceptable and when the drawing will be revised.

THX

JL



Jean-Luc Menard
Production Engineering Supervisor

DART AEROSPACE
T 1 613 632-5200 > 227
F 1 613 632-5246
1 800 556- 4166
www.dartaerospace.com





Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO35521

Purchase Order Date 3/8/2017

PO Print Date 3/10/2017

Page Number 6 of 7

Order From :

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

VC-ATG001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

613-446-4544

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Ship To Contact

Ship To Phone

Ship Via:

VENDOR'S TRUCK

Ship Acct:

15	155353	646.9910 STRUTS REV. N/C	3/27/2017	10.00	\$13.40	\$134.00
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Yes

3/27/2017

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-PRF-23377 TYPE I CLASS N

Line Total: \$134.00

16	154826	647.1713 SPACER REV. E	3/27/2017	30.00	\$6.30	\$189.00
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Yes

3/27/2017

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-PRF-23377 TYPE I CLASS N

Line Total: \$189.00

17	155358	647.4410 RAIL REV. N/C	3/27/2017	18.00	\$10.80	\$194.40
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Yes

3/27/2017

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-PRF-23377 TYPE I CLASS N

Line Total: \$194.40

PO Instructions: PRIMER IS SUPPLIED BY DART

Note:

3/10/2017



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 913083

Date: 24-Mar-17

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Chantal Lavoie
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
Quantity	Description		
ea	Struts Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied) Job: 20782 PO: PO35521 Line: 15		
30 ea	Part: 647.1713 Rev: E Spacer Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied) Job: 20783 PO: PO35521 Line: 16		
18 ea	Part: 647.4410 Rev: N/C Rail Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied) Job: 20784 PO: PO35521 Line: 17		
1 ea	Part: ADMINISTRATION FEE Rev: N/A Administrative Fee Job: 20785 PO: PO35521 Line: 19		
10 ea	Part: D2348 Rev: C Wearplate Black Anodize per MIL-A-8625F, Type II, Class 2 Job: 20769 PO: PO35521 Line: 2		
16 ea	Part: 646.2910 Rev: N/C Deflector Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied) Job: 20770 PO: PO35521 Line: 3		
10 ea	Part: 646.3011 Rev: N/C RH half		

DAS
38
9-89

SP17-03-27



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731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 913083

Date: 24-Mar-17

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

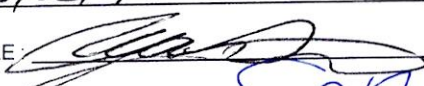
Chantal Lavoie
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms	Ship Via
Quantity	Description
	DATE : <u>24/03/2017</u>
	CERTIFIED SIGNATURE: 
	RECEIVER SIGNATURE: 
	Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.
	CERTIFICATE OF CONFORMANCE
	A.T.G. INDUSTRIES INC. CERTIFIES THAT ALL ITEMS IN THIS SHIPMENT CONFORM TO REQUIREMENTS.
	MADE IN CANADA.